

Claims:-

1. Method for operating a strip casting machine for producing a metal strip during which molten metal is continuously poured between two casting rolls (3, 4) that form a casting gap, against the facing surfaces (3a, 4a) of which sealing plates (2b) are adjusted for a side limiting of the casting gap, whereby the sealing plates (2b) are set into an oscillating movement transverse to the direction of the axis of the casting rolls (3, 4) during the casting operation, characterised in that the sealing plates (2b) are moved in an oscillating manner in and against the direction of periphery (U₃, i.e. U₄) of the casting rolls (3, 4), whereby the movement occurs alternately along one or the other of the casting roll edges (3k, i.e. 4k).
2. Method according to Claim 1, characterised in that the oscillating frequency of the sealing plate (2b) is variable.
3. Method according to Claim 2, characterised in that the oscillating frequency will depend on the casting speed.
4. Method according to one of the Claims 1 to 3, characterised in that the movement of the sealing plates (2b) in the direction of periphery (U₃, i.e. U₄) of the relevant casting roll (3, i.e. 4), i.e. in the casting direction, is a little faster, equal to, or substantially slower than the movement of the rotating surface of the casting rolls (3, 4).
5. Method according to Claim 4, characterised in that the movement of the sealing plate (2b) against the direction of periphery (U₃, i.e. U₄) of the relevant casting roll (3, i.e. 4), i.e. against the casting direction, is faster, equal to, or substantially slower than the movement in the direction of periphery (U₃, i.e. U₄), i.e. in the casting direction.
6. Method according to one of the Claims 1 to 5, characterised in that the lift of the sealing plates (2b) is +/- 0.5 to +/- 10mm.
7. Method according to Claim 6, characterised in that the lift of the sealing plates (2b) occurs at a speed that is up to 10% faster during the casting direction movement.
8. Method according to Claim 6, characterised in that the lift of the sealing plates (2b) occurs at a speed that is up to 10 times slower during the return movement against the casting direction.
9. Device for carrying out the method according to one of the Claims 1 to 8, with one drive unit (15) each for generating oscillating movements at each one of the side seals (2) receiving the relevant sealing plates (2b), characterised in that each side seal (2) on the one hand, and an adjacent fixedly positioned base plate (10; 100) on the other are allocated guide elements (40, 41, 42, 51, 52; 35, 36, 45, 46, 103, 104, 105, 106, 107, 108), whereby a first section (41, 51; 35; 45; 103, 105, 107) is envisaged for steering the side seal (2) along one casting roll edge (3k), and a second section (42, 52; 36, 46; 104, 106, 108) for steering the side seal (2) along the other casting roll

edge (4k), whereby adjustment means (33, 33a; 34, 34a; 43, 43a; 44, 44a; 110, 111, 112) are provided, with which the first or the second section of the guide elements (41, 42, 51, 52; 35, 36, 45, 46, 103, 104, 105, 106, 107, 108) can be used alternately.

10. Device according to Claim 9, characterised in that the guide elements (40, 51, 52) allocated to the side seal (2) take the form of circular guides (41, 42, 53, 54), of which at least one is located in a lower area equalling the casting gap, and two in an upper, expanded area of the side seal (2) in such a way that their guide surfaces (41, 42, i.e. 53, 54) that face the outside edges of the side seal (2) each lie on the circumference of a circle with the casting roll radius (a) and a centre (D_3 , i.e. D_4) corresponding with the axis of rotation of the relevant casting roll (3, i.e. 4).

11. Device according to Claim 10, characterised in that the guide elements allocated to the base plate (10) are formed as guide rolls (35, 36, 45, 46) that can be brought into contact with the guide surfaces (41, 42, i.e. 53, 54).

12. Device according to Claim 11, characterised in that each guide roll (35, 36, 45, 46) is bearingly and rotatably positioned on a bolt (35a, 36a, 45a, 46a) which is connected with pistons (33a, 34a, 43a, 44a) adjustably located within a fixed guide cylinder (33, 34, 43, 44) forming the adjustment means, whereby the pistons (33a, 34a, 43a, 44a), i.e. the guide rolls (35, 36, 45, 46) connected with the same can be adjusted vertically in relation to the relevant guide surface (41, 42, 53, 54).

13. Device according to Claim 12, characterised in that the guide cylinders (33, 34) for the guide rolls (35, 36) arranged in the casting gap area that can be adjusted against the lower guide surfaces (41, 42) are affixed by means of a holder (25) to a lower position cylinder (20) firmly connected with the base plate (10).

14. Device according to Claim 12 or 13, characterised in that the guide cylinders (33, 34) for the guide rolls (45, 46) that can be adjusted against the guide surfaces (53, 54) of the upper circular guide (51, 52) are affixed symmetrically to the vertical central plane of the base plate (10), i.e. the side seal (2) to an upper position cylinder (23, 24) each, and are firmly affixed to the base plate (10).

15. Device according to Claim 13 and 14, characterised in that the drive unit (15) for generating the oscillating movement of the relevant side seals (2) comprises a lower piston/cylinder unit (15) held between an upper, base plate affixed holder (11) and a holder (12) affixed to the side seal (2), which extends almost vertically between the two upper position cylinders (23, 24), whereby the lower holder (12) is positioned above the lower position cylinder (20), i.e. the circular guide (40) affixed to the side seal (2).

16. Device according to one of the Claims 10 to 15, characterised in that the lower circular guide (40) comprises two guide surfaces (41, 42) directed towards the outside edges of the side seals (2), with a rounded cross-section which can be brought into contact with correspondingly shaped circumferential surfaces (35u, 36u) of the allocated guide roll (35, 36).

17. Device according to one of the Claims 10 to 16, characterised in that the upper circular guides (51, 52) each comprise a guide surface (53, 54) directed against the relevant outside edge of the side seal (2), with a rounded cross-section which can be brought into contact with a correspondingly shaped circumferential surface (35u, 36u) of the allocated guide roll (45, 46).
18. Device according to Claim 9, characterised in that the guide elements allocated to the side seal (2) are shaped as guide surfaces (103, 104) arranged at the outside circumference of a moveable plate (102) connected with a sealing plate holding frame which each lie on the circumference of a circle with the casting roll radius (a) and a centre (D₃, i.e. D₄) equalling the axis of rotation of the relevant casting roll (3, i.e. 4).
19. Device according to Claim 18, characterised in that the guide elements allocated to the base plate (100) are shaped as two guide roll pairs (105, 106; 107, 108) arranged symmetrically to the vertical central plane of the base plate (10), i.e. the side seal (2), of which one guide roll pair (105, 106) is located in a lower, and the other guide roll pair (107, 108) in an upper expanded area of the side seal (2), whereby the guide surfaces (103, 104) of the moveable plate (102) are in constant contact with the lower guide rolls (105, 106) and can be alternately pressed against one or the other upper guide roll (107, 108).
20. Device according to Claim 19, characterised in that the moveable plate (102) equipped with the guide surfaces (103, 104) is further equipped with a recess (110) in its upper area that is symmetrical to its vertical central plane, into which two eccenters (111, 112) co-operatingly connected with a drive, which can be driven in a counter direction, project, whereby the eccenters (111, 112) and the inside surfaces of the recess (110) are matched to suit each other in a force closure in such a way that the moveable plate (102) can be pressed alternately against one or the other upper guide roll (107, 108) with one or the other guide surface (103, 104) during the rotation of the eccentric (111, 112).